June 2018 Self guided tour: Pretty Poison in the Garden
Contributed by Patrick Clarke, VanDusen Volunteer Guide

Please follow the black and white number and arrow signs for this tour.
The idea that any garden is an environment full of plants that can do harm is a bit disconcerting. The fact is, while there are many plants that contain toxins that can adversely affect humans and other animals, cases of poisoning caused by plants are relatively rare. The reasons for this are several. Plants that are poisonous if ingested, such as *Laburnum* pods, don't actually taste very good. It would be a challenge to eat so many that a human would become ill. Also some plants described as poisonous can cause itching, rashes or even hallucination, but are not necessarily going to kill. They are just unpleasant.

This tour will introduce you to a few of the plants here at VanDusen that have poisonous properties. Of course the reason these plants are in the Garden is because they are beautiful, interesting or unusual. So we invite you to look and learn.

To begin the tour, start from the Plaza in front of the Visitor Centre. Facing Livingstone Lake and the fountain, proceed to your right following the arrow signs until you reach **1 - doll's eyes or baneberry (*Actaea pachypoda* f. *pachypoda*).** This plant is quite deadly if its berry is eaten. Since it is early in the growing season the berries are not yet out. Later in summer they appear, almost translucent white with a black dot in the centre like a doll's eye. They are striking but also rather creepy looking and not appetizing. In fact they are very bitter and have the texture of Styrofoam. The berries contain cardiogenic toxins that have an immediate effect on cardiac muscle tissue leading to cardiac arrest and death.

Now turn left and follow the arrows along a mulched path. At its end, look right for a **2 - Kentucky coffee tree (*Gymnocladus dioica*),** native to midwest and eastern North America where it is endangered in the wild. The fruit of this tree has been used as a coffee substitute but the seeds must be well roasted because they are poisonous if consumed raw. They contain cytisine which can cause respiratory failure.

Continue on to the path at the edge of the lawn on your left and then straight ahead. Just before you reach the floating bridge turn right to find the groundcover **3 -mayapple (*Podophyllum peltatum*)**, also called mandrake or ground lemon. This is a strange plant in that various parts of it are poisonous, such as the leaves, roots and unripened fruit, but the ripe fruit is not poisonous. Its ripe fruit are bright yellow, much like a lemon. The seeds should be removed before eating as they may still contain the toxin podofilox.

Now return to the floating bridge and cross it. At the end, immediately turn left and head up the slope. Follow the arrow into a winding mulched path. After a short distance you will see **4 - foxglove (*Digitalis*)** on your right. Foxglove is not a native species but grows abundantly in the wild on the west coast where it is naturalized. All parts of the plant contain cardiac glycosides, a highly poisonous toxin affecting muscle tissue and circulation. As with many poisonous plants it does have a beneficial aspect because the heart medication digitalis is derived from it. Directly behind the fox glove is a **red chestnut (*Aesculus carnia*)** tree. Don't eat the poisonous nuts from this chestnut. They will make you sick.

Continue along the meandering path and turn left at the paved path. Walk over the stone bridge and past the intersection. A little farther along look for **5 - Italian arum (*Arum italicum*)** also known as Lords-and-Ladies. It has a striking red berry. All parts of this plant are poisonous and contact with the leaves can cause a rash. In Oregon and Washington it has been declared invasive and attempts are being made to eradicate it. Here in BC it has not become a problem mainly because of our slightly colder climate. Close by the Italian arum grow **6 - hellebores.** Hellebores are popular garden plants on the south coast mainly because some varieties bloom through winter. Hellebores are also known as Lenten rose, named for the varieties that bloom in spring during Lent, the six-week Christian period of observance and bloom again in winter. Hellebores are toxic and if eaten in quantity will cause serious digestive distress. The leaves contain ranunculin and protoanemonin which also causes skin irritation.

Retrace your steps to just past where you turned left until you reach the "T" intersection. Turn left and walk through the Southern Hemisphere Garden turning right at the rock wall. Follow the path down toward the zig-zag bridge. At the edge of the raised bed on your right is a small **7 - tea tree (*Leptospermum laevigatum*)**. This plant is native to Australia where aboriginal people have used it as medicine for millennia. It is commonly used as a topical treatment in the form of tea tree oil to treat acne, fungal infections and skin parasites. While it has many beneficial aspects it should not be swallowed as it is toxic in the digestive system.

Now go down the slope and cross the bridge. Continue up the slope until you reach the large black basalt rocks at the entrance to the Grotto. Growing over the top of the Grotto is **8 – spreading yew (*Taxus baccata* 'Repandens')**, a relative of our native pacific yew (*Taxus brevifolia*), which also bears fleshy red berry-like seeds. The seeds are poisonous to humans although birds seem immune and consume many. The leaves are also poisonous to cattle and horses when browsed. Taxol, an important drug used to treat many forms of cancer, is derived from the bark of pacific yew. Taxol is now produced in laboratories so wild populations of pacific yew, which have been threatened from overharvesting, have a chance to recover.

A few steps past the Pacific yew is the perennial **9 – Mediterranean spurge (*Euphorbia characias*)**. The highly variable genus *Euphorbia* includes over 2,000 species, ranging from tropical trees to cactus-like desert plants to poinsettia, and all contain a milky white sap that can be seen when the plant is cut. The sap causes considerable irritation to skin and eyes so take care when handling this plant!

A little further on is a **10 - goldenchain tree (*Laburnum ×watereri* 'Vossii')**. In mid-May VanDusen's Laburnum Walk is in full bloom with its brilliant display of golden blossoms. As the flowers fade, they produce pods that resemble small snow peas which you can see developing now. They are quite toxic containing cytisine which will cause severe stomach pain. Children could be attracted because they look edible. However, they taste awful and it is unlikely enough could be consumed to cause serious harm.

Continue to where the path divides and turn right, going past the Formal Rose Garden and entrance to the Laburnum Walk until you see a large wire mesh sculpture of a minotaur. He should be holding a hare in his hands but the hare seems to have hopped off! Behind the Minotaur is part of VanDusen's renowned **11-Rhododendron** collection. Most of those near the Minotaur are **Loderi rhododendrons**, a group of hybrids prized for their large trusses of fragrant flowers. Beautiful as they are, rhododendrons have poisonous properties, with toxic leaves that can cause severe stomach pain and vomiting when eaten. Honey from rhododendron flowers reportedly causes digestive problems but poisoning is extremely rare since this "early season" honey is typically left to feed the hive rather than harvested for human consumption.

Immediately to the left of the Minotaur is the highly fragrant shrub **12 – February daphne (*Daphne mezereum*)**. Many parts of this plant are poisonous, especially the red currant-like berries, which cause serious digestive problems if swallowed. However as with other poisonous plants, the berry tastes terrible so ingesting enough to cause harm is unlikely. Coming into contact with the sap, which contains coumarin, can cause itching and a rash. Daphne is especially hazardous for pets.

On the opposite side of the path from the Minotaur, is the entrance to our new Backyard Bird Garden. Follow the arrow past the vividly planted flower bed and visit the little yellow "bird house", a bird-watching blind for budding birders. Explore the garden and keep an eye and ear out for some of our feathered visitors – Juncos, Robins, Chickadees and the occasional Red-Headed Finch or Warbler. A hummingbird feeder attracts Vancouver's new official bird, the Anna's Hummingbird.

Follow the arrows to exit this area and turn left down the steps past the White Garden and the Fragrance Garden on your right. Turn right and continue along the main path towards the reflecting pool. Nearby are low metal containers containing a collection of interesting plants such **13 – pitcher plant (*Sarracenia × wrigleyana*)**. This is not really a poisonous plant, rather it is carnivorous. With a remarkable mechanism, these plants attract, trap and digest insects, but thankfully not humans. Under the hood of its pitcher-shaped leaf is a drop of nectar that entices insects to land at the edge of the pitcher. The insect slips into the pitcher and becomes trapped by downward facing hairs that prevent it from crawling or flying back out. Exhausted, the insect drops to the bottom of the "pitcher" into water collected there, drowns, and is then slowly digested by enzymes so the plant can absorb the nutrients it needs to live.

Now face the reflecting pool. To its left is a lovely example of the **14 – golden-leaved false acacia (*Robinia pseudoacacia* 'Frisia')**, whose seeds and bark contain a poison similar to ricin, the poison found in castor beans. New growth is especially poisonous to humans and livestock but it is nevertheless a popular garden tree that grows quickly and bears its bright yellow leaves through summer.

From here it is a short walk back to the Visitor Centre. There is so much more to explore at VanDusen and June is one of the most colourful months so feel free to spend more time in the garden. Keep in mind that as enticing as many plants are, it is important to handle them with care and to inform yourself about their beneficial and potentially harmful properties. What looks pretty, may be poisonous!